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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,179

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Shai Abramson

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EXAMINER

KING, RODNEY P

ART UNIT

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3664

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,179	Applicant(s) ABRAMSON, SHAI	
	Examiner RODNEY KING	Art Unit 3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 1-36 and 56-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/02/06, 09/24/08, 10/14/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 37-55 in the reply filed on April 29, 2009 is acknowledged.
2. Claims 1-16 and 56-61 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected robot for moving over a surface, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 29, 2009.
3. Claims 17-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected docking station for receiving a robot, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 29, 2009.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 37-42 and 44-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Diehl (US 2005/0150074 A1).

Referring to Claim 37: Diehl discloses a docking system comprising:

a docking station for location on a surface, the docking station configured for accommodating a robot in at least a docking engagement, the docking station including a first transmission part for at least transferring energy [0003-0007];

and a robot configured for movement over the surface, the robot including a movement system and a second transmission part, the second transmission part configured for at least receiving energy from the first transmission part when the first transmission part is in electrical contact with the second transmission part when the robot is docked in the docking station, and the docking is achieved when the first transmission part and the second transmission part are in at least a substantially horizontal alignment [0003-0010, 0036, 0048].

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Referring to Claim 38: Diehl discloses all of the limitations mentioned in Claim 37.

Diehl further discloses wherein the second transmission part includes a plurality of docking contacts extending laterally from the robot [0047].

Referring to Claim 39: Diehl discloses all of the limitations mentioned in Claim 38.

Diehl further discloses wherein the plurality of docking contact includes two docking contacts [0047].

Referring to Claim 40: Diehl discloses all of the limitations mentioned in Claim 39.

Diehl further discloses wherein the robot includes a control system in electrical communication with each of the docking contacts for determining if there is a threshold voltage at the docking contacts [0004, 0037, 0046].

Referring to Claim 41: Diehl discloses all of the limitations mentioned in Claim 37.

Diehl further discloses wherein the first transmission part includes a receptor mechanism including electrically conductive arms for contacting the second transmission part to facilitate the passage of energy therethrough [0047].

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Referring to Claim 42: Diehl discloses all of the limitations mentioned in Claim 37.

Diehl further discloses wherein energy includes electricity for charging a power supply of the robot [0003].

Referring to Claim 44: Diehl discloses all of the limitations mentioned in Claim 37.

Diehl further discloses wherein the first transmission part and the second transmission part are configured for transferring and receiving signals therebetween [0017].

Referring to Claim 45: Diehl discloses a docking system comprising:

a docking station for location on a surface, the docking station configured for accommodating a robot in at least a docking engagement, the docking station including a first transmission part for at least facilitating the transmission and reception of signals [0003-0007];

and a robot configured for movement over the surface, the robot including a movement system and a second transmission part, the second transmission part configured for at least facilitating the transmission and reception of signals to and from the first transmission part, when the first transmission part is in electrical contact with the second transmission part when the robot is docked in the docking station, and the

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docking is achieved when the first transmission part and the second transmission part are in at least a substantially horizontal alignment [0003-0010, 0036, 0048].

Referring to Claim 46: Diehl discloses all of the limitations mentioned in Claim 45.

Diehl further discloses wherein the second transmission part includes a plurality of docking contacts extending laterally from the robot [0047].

Referring to Claim 47: Diehl discloses all of the limitations mentioned in Claim 45.

Diehl further discloses wherein the plurality of docking contact includes two docking contacts [0047].

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 48, 49, and 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Keith (US 5,598,084 A).

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Referring to Claim 8: Keith discloses a method for docking a robot comprising:

responding to a signal in a wire defining a boundary (Col. 5, lines 27-34);

moving to a docking station by traveling along at least a portion of the wire (Col. 5, lines 44-48);

attempting to dock in the docking station by a first transmission part on the docking station being electrically contacted by a second transmission part on the robot (Col. 5, lines 3-55); and,

determining if the electrical contact is at a predetermined level (Col. 20, line 66- Col. 21, line 21).

Referring to Claim 49: Keith discloses all of the limitations mentioned in Claim 48.

Keith further discloses wherein if the electrical contact is at least at a predetermined level, transmitting energy from the docking station to the robot, through the first and second transmission parts (Col. 5, lines 3-55; Col. 32, lines 13-18).

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Referring to Claim 53: Keith discloses all of the limitations mentioned in Claim 48.

Keith further discloses wherein the second transmission part includes at least one docking contact extending from the robot (Col. 7, lines 40-44)(Fig. 1).

Referring to Claim 54: Keith discloses all of the limitations mentioned in Claim 53.

Keith further discloses wherein the second transmission part includes at least one docking contact extending from the robot (Col. 7, lines 40-44).

Referring to Claim 55: Keith discloses all of the limitations mentioned in Claim 53.

Keith further discloses wherein the first transmission part includes a receptor mechanism including electrically conductive arms for contacting the second transmission part to facilitate the passage of energy therethrough (Col. 7, lines 40-44).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl (US 2005/0150074 A1), further in view of Osawa (US 6,764,373 B1).

Referring to Claim 43: Diehl discloses all of the limitations mentioned in Claim 41.

Diehl does not disclose wherein the second transmission part is magnetic and the electrically conductive arms are of a magnetically attractive material. However, Osawa discloses a transmitter that transmits a magnetic field between a robot and a charging station (Col. 4, lines 37-46). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Diehl docking system with the Osawa transmitter to give the robot a clue as to the range and bearing to the charging station. This method for improving the docking system of Diehl was within the ordinary ability of one of ordinary skill in the art based on the teachings of Osawa. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Diehl and Osawa to obtain the invention as specified in Claim 43.

10. Claims 50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (US 5,598,084 A), further in view of Saitou (US 2005/0041839 A1).

Referring to Claim 50: Keith discloses all of the limitations mentioned in Claim 48.

Keith does not disclose wherein transmitting energy from the docking station to the

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robot includes transmitting electricity from the docking station to a power supply of the robot, to charge the power supply, through the electrical contact of the first and second transmission parts. However, Saitou discloses a battery of a robot that is powered by electricity when connected to a charging stand, and a charge sensor tied to the battery and a control unit [0042]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Diehl docking system with the Saitou battery and sensor to detect the amount of charge in the robot battery. This method for improving the docking system of Diehl was within the ordinary ability of one of ordinary skill in the art based on the teachings of Saitou. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Diehl and Saitou to obtain the invention as specified in Claim 50.

Referring to Claim 52: Keith discloses all of the limitations mentioned in Claim 52.

Keith does not disclose signaling the robot to resume operation when the power supply of the robot is charged to a predetermined level, however, Saitou discloses this limitation [0070-0074]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Diehl docking system with the Saitou limitation to detect the amount of charge in the robot battery. This method for improving the docking system of Diehl was within the ordinary ability of one of ordinary skill in the art based on the teachings of Saitou. Therefore, it would have been obvious to one of

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ordinary skill in the art to combine the teachings of Diehl and Saitou to obtain the invention as specified in Claim 52.

11. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (US 5,598,084 A), further in view of Schliesing (US 4,860,975 A).

Referring to Claim 51: Keith discloses all of the limitations mentioned in Claim 48.

Keith does not disclose wherein if the electrical contact is not at the predetermined level or an electrical contact is not made, moving the robot out of the docking station and attempting to redock in the docking station. However, Schliesing discloses a logic unit that detects if there is a load sensor signal between a space vehicle and a space station, and sends command signals to properly position the space vehicle to align with the space station (Col. 5, lines 12-28). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Diehl docking system with the Schliesing logic unit to properly align the space vehicle with the space station. This method for improving the docking system of Diehl was within the ordinary ability of one of ordinary skill in the art based on the teachings of Schliesing. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Diehl and Schliesing to obtain the invention as specified in Claim 51.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the data recording apparatus:

U.S. Patent Publication No. 2007/0267998 A1 discloses systems to prevent inadvertent contact between a robot and a base station.

U.S. Patent 7,474,072 B1 discloses a case packing robot comprising a two dimensional articulated robot suspended from the top of a Cartesian gantry-type frame.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RODNEY KING whose telephone number is (571) 270-7823. The examiner can normally be reached on 7:30am - 5:00pm Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./

Examiner, Art Unit 3664

/KHOI TRAN/

Supervisory Patent Examiner, Art Unit 3664